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some of the specimens of that genus from Scaumenac Bay threw quite a new light on the structure of its mouth organs and of the so-called 'lid' with its pineal element. And, similarly, a portion of one side of the head of a specimen of *Eusthenopteron* from the same locality, which by an oversight was referred to *Phaneropleuron*, has almost all the sclerotic plates of the eye preserved.

From the collections made near Campbellton in 1881 and 1882 four species of fossil fishes were described, viz.: *Cephalaspis Campbelltonensis*; a supposed *Coccosteus* (*C. Acadicus*), the type of Traquair's subsequently characterized genus *Phlyctænaspis*,* and two kinds of fin spines.

Numerous fossil fishes from both of these localities have since been collected by Mr. Jex for Mr. R. F. Damon, of Weymouth, England, and these have been acquired by the Edinburgh and British Museums. These later collections have yielded some additional species, one from Scaumenac Bay, which was described by Dr. Traquair in 1890, and six from Campbellton, three of which were described by Dr. Traquair, one in 1890 and two in 1893, and three by Mr. A. Smith Woodward in 1892. The latest novelty from Scaumenac Bay is a new *Cephalaspis* (*C. laticeps*, Traquair), of which it is said that "this is the first occurrence of a cephalaspid in rocks of later age than the Lower Devonian."† The three additional species from Campbellton that Dr. Traquair has described are two ichthyodorulites (*Gyracanthus incurvus*‡ and *Cheiracanthus costellatus*)§ and another *Cephalaspis* (*C. Jexi*).|| The three from the same locality described by Mr. A. Smith Woodward, in the eighth volume of the Third Decade of the *Geological Magazine*, are all

elasmobranchs, viz., *Acanthodes semistriatus*, *Protodus Jexi* and *Diplodus problematicus*, the latter being the type of Traquair's genus *Doliodus*,* published in 1893.

In 1882 Sir William Dawson determined or described the fossil plants from Scaumenac Bay, four specifically and four only generically, and identified six species of fossil plants from near Campbellton with the *Psilophyton princeps*, *P. robustius*, *Arthrostigma gracile*, *Leptophlæum rhombicum*, *Cordaites angustifolia* and *Prototaxites Loganii* of the Gaspé sandstones. He asserts that the plant and fish-bearing beds at Scaumenac Bay are "no doubt the equivalents and continuation of the upper part of the Gaspé sandstones," and that the fossil plants from near Campbellton are "perfectly identical with the lower part," of these sandstones.†

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(To be concluded.)

THE FAMILY NAME OF THE DORMICE.

IN a paper 'On the Genera of Rodents,' published in 1896,‡ Mr. Oldfield Thomas very properly rejected the family name *Myoxidæ* commonly applied to the Old World dormice, for the reason that *Myoxus*, on which it was based, is a synonym of the earlier generic name *Glis*. In adopting the name *Gliridæ* he divided the family into two subfamilies, *Glirinæ* and *Platanthomyinæ*; the former including four genera: *Glis* Brisson, 1762; *Muscardinus* Kaup, 1829; *Eliomys* Wagner, 1843, and *Graphiurus* Cuvier, 1838; the latter *Platanthomys* Blyth, 1859, and *Typhlomys* Milne-Edwards, 1877. It now appears that *Gliridæ* is untenable for this family because of previous application to other groups; in

* *Geological Magazine*, Decade 3, Vol. VII., p. 144.

† *Ibid.*, Decade 3, Vol. VII., p. 16.

‡ *Ibid.*, p. 21.

§ *Ibid.*, Decade 3, Vol. X., p. 146.

|| *Ibid.*, p. 147.

* *Ibid.*, p. 145.

† Geological Survey of Canada. The Fossil Plants of the Erian (Devonian) and Upper Silurian Formations of Canada. Part 2.

‡ Proc. Zool. Soc. London, 1896, p. 1016.

short, that it is one of the rare examples of a term preoccupied as a family name but based on a genus which is perfectly valid.

Nearly eighty years ago Wiegmann* proposed the family Glirina for the wombats (*Phascolomys*) of Australia and Tasmania, which are now referred to the Phascologyidæ. This course was also followed by Wagner in 1855, in the Supplement to Schreber's Säugethiere (Vol. V., pp. xv, 332).

In 1837 Ogilby,† in discussing the relationships of the peculiar aye-aye (*Cheiromys*) found in Madagascar, remarked: "It is only, indeed, the absence of the marsupial character which would make us hesitate to unite the *Cheiromys* with the Didelphidæ; but this circumstance is so material as to require that it should be placed in a different subfamily. At the same time, its analogy to the Rodentia ought not to be overlooked; and it is for the purpose of expressing this relation that I propose to denominate the small group which I am obliged to form for this animal, Gliridæ. I suspect, indeed, that the *Cheiromys* bears a more intimate relation to the real dormice (*Glis*) than we are yet aware of."

Thus Gliridæ has been used for three different groups of mammals belonging to as many different orders, Marsupialia, Primates and Rodentia. But since it is generally recognized that family names must be based on one of the included genera, this name is not available either for the aye-aye or the wombat, while its prior application to these animals invalidates its later use for the dormice, the only group which contains a genus *Glis*.

It remains to be determined what family designation should be applied to the dormice. Besides *Glis* and its synonym *Myoxus*,

* Wiegmann & Ruthe's Handbuch d. Zool., p. 52, 1832.

† Charlesworth's Mag. Nat. Hist., I., p. 523, Oct., 1837.

two other genera have been selected as types of higher groups: *Platacanthomys*, made the type of the subfamily Platacanthomyinæ by Blyth in 1876, and *Graphiurus*, the type of the subfamily Graphiurini by Winge in 1887. Either of these names might be used for the family. Platacanthomyinæ has the advantage of priority, but is open to the objection that it represents an aberrant section, so different, in fact, that some authors have not associated it with the dormice at all. *Graphiurus* is also aberrant, and according to Winge should be separated from all the other genera. This view Thomas does not accept, holding that "it might be quite as correct to separate *Glis* and *Muscardinus* on the one side from *Eliomys* and *Graphiurus* on the other by the pattern of the teeth, as to separate the last-named from the rest by the structure of the ante-orbital region." Evidently a family based on the Indian *Platacanthomys* or the South African *Graphiurus* would not represent exactly the same group as that formerly known as Myoxidæ.

Under these circumstances it seems desirable to adopt a new family name, Muscardinidæ, based on *Muscardinus*, a genus which is closely related to *Glis*. The family of dormice may then be subdivided into the Muscardininæ for *Muscardinus*, *Glis*, *Graphiurus*, *Eliomys*; and Platacanthomyinæ for *Platacanthomys* and *Typhlomys*, reserving Winge's Graphiurinae for *Graphiurus* and *Eliomys*, in case it should be desirable to make a third subfamily for these genera, as suggested by Thomas.

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SCIENTIFIC BOOKS.

Differential and Integral Calculus for Technical Schools and Colleges. By P. A. LAMBERT, M.A., Assistant Professor of Mathematics, Lehigh University. New York, The Macmillan Company. 1898. Pp. x+245. Price \$1.50.